CLAIMS

1 A system for electrically isolating a portion of a wafer comprising

a first wafer,

a first conductor formed at least partially through said first wafer,

a first conductor insulating layer formed at least partially through said first wafer, said first conductor insulating layer engaging said first conductor and disposed between said first conductor and material of said first wafer, said first conductor insulating layer being formed of dielectric material, and

a first outer insulating layer formed at least partially through said first wafer and spaced from said first conductor insulating layer, said first outer insulating layer being formed of dielectric material

2 The system of claim 1, further comprising.

a second outer insulating layer formed at least partially through said first wafer and spaced from said first outer insulating layer such that said first outer insulating layer is arranged between said second outer insulating layer and said first conductor insulating layer, said second outer insulating layer being formed of dielectric material

3 The system of claim 1, further comprising.

a second conductor formed at least partially through said first wafer, said second conductor being arranged within an area at least partially bounded by said first outer insulating layer, and

a second conductor insulating layer formed at least partially through said first wafer, said second conductor insulating layer engaging said second conductor and disposed between said second conductor and material of said first wafer, said second conductor insulating layer being formed of dielectric material

4 The system of claim 1, further comprising.

a second wafer at least partially overlying said first wafer,

a first conductor formed at least partially through said second wafer,

a first conductor insulating layer formed at least partially through said second wafer, said first conductor insulating layer of said second wafer engaging said first conductor of said second wafer and disposed between said first conductor of said second wafer and material of said second wafer, said first conductor insulating layer of said second wafer being formed of dielectric material, and

a first outer insulating layer formed at least partially through said second wafer and spaced from said first conductor insulating layer of said second wafer, said first outer insulating layer of said second wafer being formed of dielectric material,

said first conductor of said second wafer electrically communicating with said first conductor of said first wafer

5 The system of claim 1, wherein said first wafer has a first side and an opposing second side, and wherein said first conductor extends through said first wafer from said first side to said second side

6 The system of claim 6, further comprising.

a second outer insulating layer formed at least partially through said first wafer and spaced from said first outer insulating layer such that said first outer insulating layer is arranged between said second outer insulating layer and said first conductor insulating layer, said second outer insulating layer being formed of dielectric material

7 The system of claim 6, further comprising.

a second conductor extending through said first wafer from said first side to said second side, said second conductor being arranged within an area at least partially bounded by said first outer insulating layer, and

a second conductor insulating layer formed at least partially through said first wafer, said second conductor insulating layer engaging said second conductor and disposed between said second conductor and material of said first wafer, said second conductor insulating layer being formed of dielectric material

8 The system of claim 1, wherein said first wafer has a first side, a second side opposing said first side, and a sidewall extending between said first side and said second side, wherein said first conductor extends through said first wafer from said first side to said second side, and wherein said first outer insulating layer intersects said sidewall

9 The system of claim 9, wherein said sidewall defines an outer periphery of said first wafer

10 The system of claim 9, further comprising

a second wafer at least partially overlying said first wafer,

a first conductor formed at least partially through said second wafer,

a first conductor insulating layer formed at least partially through said second wafer, said first conductor insulating layer of said second wafer engaging said first conductor of said second wafer and disposed between said first conductor of said second wafer and material of said second wafer, said first conductor insulating layer of said second wafer being formed of dielectric material, and

a first outer insulating layer formed at least partially through said second wafer and spaced from said first conductor insulating layer of said second wafer, said first outer insulating layer of said second wafer being formed of dielectric material,

said first conductor of said second wafer electrically communicating with said first conductor of said first wafer.

11 The system of claim 10, wherein said second wafer has a first side, a second side opposing said first side, and a sidewall extending between said first side and said second side, wherein said first conductor of said second wafer extends through said second wafer from said first side to said second side, and wherein said first outer insulating layer of said second wafer intersects said sidewall of said second wafer

12 A method for electrically isolating a portion of a wafer comprising.

providing a first wafer,

forming a first conductor at least partially through the first wafer,

disposing first dielectric material between the first conductor and material of the first wafer, and

at least partially surrounding the first conductor and the first dielectric material with second dielectric material, the second dielectric material being spaced from the first dielectric material such that a first portion of the material of the first wafer is arranged between the first dielectric material and the second dielectric material and a second portion of the material of the first wafer is arranged outside an outer periphery of the second dielectric material

13 The method of claim 12, wherein the first wafer has a first side and an opposing second side, and the first conductor extends through the first wafer from the first side to the second side, and further comprising.

forming a second conductor through the first wafer from the first side to the second side, the second conductor being arranged between the first dielectric material and the second dielectric material

14 The method of claim 13, further comprising.

at least partially surrounding the second dielectric material with third dielectric material, the third dielectric material being spaced from the second dielectric material

15 The method of claim 14, further comprising

dicing the first wafer to form a first die assembly and a second die assembly, the first die assembly including the first conductor, the first dielectric material and a first portion of the second dielectric material. the second die assembly including the second conductor and a second portion of the second dielectric material

16 The method of claim 13, further comprising

providing a second wafer,

forming a first conductor at least partially through the second wafer,

disposing first dielectric material between the first conductor and material of the second wafer, and

at least partially surrounding the first conductor and the first dielectric material of the second wafer with second dielectric material, the second dielectric material of the second wafer being spaced from the first dielectric material of the second wafer such that a first portion of the material of the second wafer is arranged between the first dielectric material and the second dielectric material of the second wafer and a second portion of the material of the second wafer is arranged outside an outer periphery of the second dielectric material of the second wafer, and

arranging the second wafer and the first wafer such that the first conductor of the first wafer and the first conductor of the second wafer electrically communicate with each other

17 The method of claim 16, wherein the second wafer has a first side and an opposing second side, and the first conductor of the second wafer extends through the second wafer from the first side to the second side, and further comprising:

forming a second conductor through the second wafer from the first side to the second side, the second conductor of the second wafer being arranged between the first dielectric material and the second dielectric material of the second wafer

18 The method of claim 17, wherein the first wafer includes a second conductor formed through the first wafer from the first side to the second side, the second conductor of the first wafer being arranged between the first dielectric material and the second dielectric material of the first wafer, and the first wafer and the second wafer are bonded together to form a wafer stack, and further comprising.

dicing the wafer stack to form a first die assembly and a second die assembly,

the first die assembly including the first conductor of the first wafer, the first dielectric material of the first wafer, the first conductor of the second wafer, the first dielectric material of the second wafer, a first portion of the second dielectric material of the first wafer, and a first portion of the second dielectric material of the second wafer,

the second die assembly including the second conductor of the first wafer, the second conductor of the second wafer, a second portion of the second dielectric material of the first wafer, and a second portion of the second dielectric material of the second wafer